

BACKGROUND

Vital signs are key indicators of a patient's overall physiological condition and play an important role in assessing health status. Blood pressure, heart rate, respiratory rate, temperature, oxygen saturation help healthcare providers identify early signs of illness or patient deterioration. In outpatient and urgent care settings, recognizing normal and abnormal vital sign parameters allows for timely interventions, appropriate escalation of care, improved clinical decision-making, and enhanced patient safety. Ongoing staff awareness and education are essential to ensure accurate assessment, monitoring, and management of abnormal findings.

PURPOSE

The purpose of this project is to enhance healthcare staff awareness of normal pediatric and vital sign parameters to support early recognition of abnormalities, timely intervention, effective management, and improved patient safety outcomes.

METHODS

Current evidence - based guidelines, including recommendations from the American Physical Therapy Association (APTA) and the American Heart Association (AHA) along with nursing literature, and institutional policies were reviewed to identify normal and abnormal vital sign parameters for adult and pediatric populations. Reference ranges for temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation were compiled and compared across age groups. Recommended monitoring, reassessment, escalation of care, and management interventions were summarized and incorporated into an educational reference guide designed to enhance healthcare staff awareness, support clinical decision-making, and promote patient safety.

Healthy Vital Sign Parameters for Pediatrics					
Age	Heart Rate (Beats Per Minute)	Blood Pressure (Systolic/Diastolic)	Oxygen Saturation	Respiratory Rate (Breaths per Minute)	Temperature (F)
4 weeks	90 - 205 bpm	67-84 / 35-53	95% - 100%	30 - 53 bpm	98.6°F - 100.4°F
1 month - 12 months	90 - 180 bpm	72-104 / 37-56	95% - 100%	30 - 53 bpm	99.4°F - 99.7°F
1 year - 2 years	80 - 140 bpm	86-106 / 42-63	92% - 100%	22 - 37 bpm	99.4°F - 99.7°F
3 years - 5 years	65 - 120 bpm	89 - 112 / 46 - 72	92% - 100%	20 - 28 bpm	98.6°F - 99.0°F
6 years - 9 years	58 - 118 bpm	97 - 115 / 57 - 76	92% - 100%	18 - 25 bpm	98.1°F - 98.3°F
10 years - 12 years	58 - 118 bpm	102 - 120 / 61 - 80	92% - 100%	18 - 25 bpm	96.8°F - 99.5°F
13 years - 15 years	50 - 100 bpm	110 - 131 / 64 - 83	92% - 100%	12 - 20 bpm	96.8°F - 99.5°F
16 years - 18 years	60 - 100 bpm	110 - 131 / 64 - 83	92% - 100%	12 - 20 bpm	96.8°F - 99.5°F

Blood Pressure Parameters for Adults		
Stage	Systolic (SBP) (mmHg)	Diastolic (DBP) (mmHg)
Normal	< 120	<80
High - Normal / Elevated	120 - 129	<80
Stage 1 - Hypertension	130-139	80-89
Stage 2 - Hypertension	≥ 140	≥ 90
Hypertensive Crisis	≥ 180	> 120

Heart Rate Parameters for Adults		
Condition	Range (beats per minute)	Relative Condition
Normal	60 - 100 bpm	-
Bradycardia - lower Pulse Rate	< 60 bpm	Decreased resting pulse rate > 20bpm from baseline
Tachycardia - higher Pulse Rate	> 100 bpm	Increased resting pulse rate > 20bpm from baseline

Oxygen Saturation Parameters for Adults	
Condition	Range
Normal SpO2 and SaO2	95 - 100%
Normal SvO2	65 - 75%

Temperature Parameters for Adults	
Condition	Range
Normal	95.9 - 99.5°F
Hypothermia - Early Stage	95°F - 91°F
Hypothermia - Intermediate Stage	90°F - 75°F
Hypothermia - Third Stage	When all attempts at temperature regulation fail
Hyperthermia (Febrile)	99.5°F (oral) or 100.5°F (rectal)

Respiratory Rate Parameters for Adults	
Condition	Range (breaths per minute)
Eupnea - Normal	12 - 18 bpm
Bradypnea - slow breathing	< 10 bpm
Tachypnea - fast breathing	> 24 bpm

RESULTS

Evidence-based adult and pediatric vital sign reference ranges and abnormal value thresholds were compiled from AHA, APTA, and nursing literature. Monitoring, reassessment, escalation, and management recommendations were summarized into a quick-reference guide designed to support early recognition of patient deterioration, timely intervention, and improved patient safety.

CONCLUSIONS

Vital signs are key indicators of a patient's overall physiological condition and play an important role in assessing health status. Blood pressure, heart rate, respiratory rate, temperature, oxygen saturation help healthcare providers identify early signs of illness or patient deterioration. In outpatient and urgent care settings, recognizing normal and abnormal vital sign parameters allows for timely interventions, appropriate escalation of care, improved clinical decision-making, and enhanced patient safety. Ongoing staff awareness and education are essential to ensure accurate assessment, monitoring, and management of abnormal findings.

REFERENCES

